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Spiritually integrated care for PTSD: A randomized controlled trial of “Building Spiritual Strength”

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ABSTRACT

Previous literature documents important cross-sectional and longitudinal relationships between spiritual distress and posttraumatic stress disorder (PTSD) outcomes. This study tests the efficacy of a spiritually integrated intervention “Building Spiritual Strength” (BSS) that can be delivered by trained chaplains. The intervention addresses spiritual concerns expressed by trauma survivors, including concerns in relationship with a Higher Power, difficulty with forgiveness, and theodicy. In a randomized controlled trial with blinded assessment, veterans were randomized to engage in a BSS condition ($n = 71$) or Present Centered Group Therapy (PCGT; control) condition ($n = 67$) with assessments at baseline, posttreatment, and a two-month follow up. Both groups showed similar, statistically significant reductions in symptoms of PTSD as measured by the Clinician Administered PTSD Scale (CAPS). BSS was shown to be more effective than PCGT in treating distress in relationship with a Higher Power. This was the second clinical trial of BSS with promising results and highlights the need for further study in psychospiritual interventions. More research is warranted on BSS being offered by non-specialized chaplains and on the application of BSS in suicide prevention.

1. Introduction

The research literature on spirituality and trauma evidences important relationships between spiritual distress and clinical outcomes among trauma survivors in both cross-sectional and longitudinal studies (Currier et al., 2014, 2015; Harris et al., 2008, 2012; Ogden et al., 2011). Cross-lag analysis shows that among veterans in intensive treatment for PTSD, levels of spiritual functioning before treatment predicted improvements in PTSD symptoms, which suggests that spiritual distress may be an etiological factor in posttraumatic recovery (Currier et al., 2015). The literature on spiritual distress and combat also includes theoretical concerns that the complex moral environments that can characterize war-zone deployments may overwhelm individuals whose psychospiritual development is in comparatively concrete stages (Harris et al., 2015; Nash and Litz, 2013). Namely, when confronted with morally ambiguous situations that lead service members to act in ways that violate their previous sacred beliefs and values, they can experience distressing thoughts and emotions related to

religious faith and/or spirituality, sometimes described as moral injury (Litz et al., 2009).

Theory related to spiritual coping suggests that when confronted with threat or loss, individuals respond with spiritual coping; if coping does not alleviate distress, spiritual struggle ensues (Murray-Swank and Pargament, 2011). Spiritual struggle may be resolved either as a transformative process resulting in spiritual growth, or a disengagement process resulting in spiritual disintegration (Murray-Swank and Pargament, 2011). Research documenting cross-sectional, longitudinal, and cross-lag relationships between spiritual distress and more severe and persistent symptoms of PTSD is consistent with this theory (Bryan et al., 2017; Fontana and Rosenheck, 2004; Harris et al., 2008, 2012; Currier et al., 2015). The relevance of spiritual distress in PTSD discussed above has been recognized in the *Diagnostic and Statistical Manual-5 (DSM-5; 2013)*, which now identifies guilt as a symptom of PTSD. Spiritual distress involves a broad constellation of concerns such as guilt and shame, including problems forgiving self and others, self-loathing, poor self-care, alienation from a Spiritual Universe/Higher

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Power construct, alienation from a faith community, and loss of purpose or meaning (Bryan et al., 2014, 2015; Gray et al., 2012; Maguen et al., 2011). Across studies, results indicate that spiritual distress, such as disruption in a relationship with a Higher Power, feeling ostracized or judged by a faith community, high levels of guilt or shame, or feeling that one is being punished by a Higher Power or karmic force, has been associated with higher levels of PTSD symptoms, and a more severe, longer course of PTSD over time (Currier et al., 2014, 2015; Harris et al., 2008, 2012; Ogden et al., 2011). Evidence that potentially spiritually challenging events, such as killing in combat, and subsequent spiritual distress, are uniquely related to worse suicidal ideation and risk for substantially worse mental health outcomes is mounting (Harris et al., 2014; Kopacz et al., 2016a; Maguen et al., 2011). Given the growing body of research relating to spiritual coping, spiritual distress, and mental health outcomes among trauma survivors, especially among veterans, it would make sense to test models of spiritually integrated care for PTSD in this population.

1.1. The intervention: Building Spiritual Strength

BSS (Harris et al., 2011) is a manualized, spiritually integrated, group counseling intervention designed to reduce symptoms of PTSD by facilitating resolution of spiritual distress, thus helping individuals make new, more adaptive, and global meanings of traumatic experiences. The program was designed to be accessible and respectful to participants from any religious or non-religious identification. Training for group facilitators and participants prohibits proselytizing or evangelizing in group contexts. The intervention was designed to be led by either mental health providers with training, experience, or supervision in spiritually integrated care, or chaplains/clergy/pastoral counselors with specialized mental health training, Clinical Pastoral Education or similar training, or other specific training in mental health counseling.

In a previous, pilot randomized controlled trial of BSS, as compared to a wait-list group, BSS participants evidenced statistically significant reductions in PTSD symptoms (Harris et al., 2011). Participants were veterans who met criteria for PTSD diagnoses based on their score on the PTSD Checklist (PCL-C). The average age of participants was 45 years, and the average level of education was 15 years. The group was primarily comprised by Caucasian males who identified with a Christian denomination. The mean difference in PTSD Checklist scores between the treatment and wait-list groups was 12.23, which exceeds the 10-point margin for clinically significant change on that instrument. The effect size was in the medium range ($d = 0.67$). The pre- post- effect size for the wait-list condition was $d = 0.01$, and the pre- post- effect size for the BSS condition was $d = 2.30$. After treatment, 69% of the control group were still above the cutoff score for PTSD, while 46% of the treatment group remained above cutoff. When members of the wait-list group were subsequently enrolled in the intervention, their rates of symptom reduction as compared to their wait-list baseline were similar (Harris et al., 2011).

The goal of the present study was to conduct a larger randomized clinical trial of BSS, using an active control group (PCGT), rather than a wait-list control. Secondary goals were to expand knowledge of BSS outcomes to variables specifically relevant to spiritual distress. Hypotheses were as follows:

H1. Veterans randomized to BSS will experience greater reduction in PTSD symptoms than those randomized to PCGT.

H2. Veterans randomized to BSS will report greater reduction of spiritual distress than veterans randomized to PCGT.

2. Methods

2.1. Participants

Participants were recruited through fliers, newsletter

announcements, and letters to veterans who had received services for PTSD within the VA system, including those served at two large VA Medical Centers and four Community Based Outpatient Centers. The vast majority of respondents indicated that they contacted study staff in response to a letter sent to them by the study team. Inclusion criteria included a) status as a veteran or active duty service member, b) competence to consent to research, c) Clinician Administered PTSD Scale scores consistent with a diagnosis of PTSD or subthreshold PTSD as defined by *DSM-IV* or the Blanchard et al. (1996a) definition of subthreshold PTSD (see below), and d) stability on any psychotropic medications for eight weeks prior to enrollment. Exclusion criteria included a) imminent or severe risk of harm to self or others, b) levels of substance abuse that would interfere with treatment, and c) acute psychosis. All procedures for the study were reviewed and approved by the Institutional Review Board.

A total of 138 veterans participated in the study. The average age was 58.33 (range = 18–76; $SD = 13.00$). Sixty-five percent were Vietnam cohort veterans, 14% were Operation Enduring Freedom/Operation Iraqi Freedom cohort veterans, 7% were Gulf War veterans, and the remainder were from other periods. The sample was 14% female, 70% Caucasian, 8% African-American, 3% Hispanic, 1% each for Asian, Native American, and Multiracial, and 17% unreported ethnicities. Reported religious affiliations included: Protestant ($n = 84$), Catholic ($n = 38$), Spiritual but not religious ($n = 13$), Agnostic ($n = 5$), Jewish ($n = 2$), Sufi ($n = 1$), Shinto ($n = 1$), and Native American Spirituality ($n = 1$). Note that some participants reported multiple affiliations. Sixty-seven veterans were randomized to PCGT, and 71 were randomized to BSS. See Table 1 for detailed sample description.

2.2. Procedures

Based on a power analysis using effect sizes derived from the pilot study, the planned sample size was 150 participants. Participants were recruited from April 2014 through April 2016. Data collection was stopped at 138 because the team came to the end of the funded period for study implementation before attaining 150 participants. Veterans interested in participating in the study were asked to call the study coordinator and initially complete a telephone screening for inclusion/exclusion criteria. Those who appeared to meet criteria based on a very brief telephone screening were invited to an informed consent and baseline screening interview including structured interviews to assess for PTSD and exclusionary conditions, as well as demographics, and self-report measures of PTSD symptoms and spiritual distress (See Fig. 1 for Screening and Randomization data). Outcomes were collected using interview and self-report measures at the end of the eight weeks of intervention, and again using self-report measures only at a two-month follow-up after the intervention had ended. Interview assessments were conducted by a Master's level independent evaluator who was blind to treatment condition and supervised by a similarly blinded study co-investigator. Interviews and implementation of groups took place in community and faith group settings, such as inter-faith centers and churches that defined services to veterans as part of their mission. Veterans were randomized to conditions based on a randomization table developed by the study statistician before recruitment began, and were informed of their treatment condition only after eligibility for enrollment and baseline assessment data were collected.

Both groups were led by chaplains who had additional qualifications in mental health. The demographic and training descriptions of the study chaplains are as follows: Chaplain One was a Caucasian male, held Master's degrees in Divinity and Marriage and Family Therapy, affiliated with the United Church of Christ, and also functioned as an Army Reserve Chaplain. Chaplain Two was a Caucasian female, held a bachelor's degree in Youth Ministry and a Master's degree in Marriage and Family Therapy, had no military affiliation, and practiced as a non-denominational Christian. Chaplain Three was a Caucasian male, held

Table 1
Sample description: demographics and outcome variables for experimental and control groups.

Variable	Total (138) n (%)	PCGT (67) n (%)	BSS (71) n (%)
Male	105(76%)	52(78%)	53(75%)
Female	33(24%)	15(22%)	18(25%)
Age mean (SD)	57(13.67)	55.87(14.50)	58.26 (12.86)
RACE			
White	115(83%)	57(85%)	58(82%)
Black	10(7%)	2(3%)	8(11%)
Other	13(9%)	8(12%)	5(7%)
Religious affiliation			
Protestant	74(54%)	35(52%)	39(55%)
Catholic	25(18%)	14(21%)	11(15%)
Jewish	1(1%)	1(1%)	0(0%)
Agnostic	4(3%)	2(3%)	2(3%)
None	22(16%)	10(15%)	12(17%)
Other	12(9%)	5(7%)	7(10%)
Trauma type			
Combat	90(65%)	42(63%)	48(68%)
Sexual trauma	21(15%)	13(19%)	8(11%)
Adverse childhood experiences	3(2%)	0(0%)	3(4%)
Physical assault	4(3%)	2(3%)	2(3%)
Accident	7(5%)	4(6%)	3(4%)
Life-threatening illness/injury	6(4%)	2(3%)	4(6%)
Other	7(5%)	4(6%)	3(4%)
Baseline scores mean(SD)			
PCL	55.81(11.95)	54.87(11.18)	58.20(11.26)
CAPS	61.22(19.29)	61.12(17.44)	61.31(21.02)
Divine	9.39(4.79)	8.51(4.00)	10.02(5.69)
Demonic	7.11(4.19)	6.78(4.16)	7.67(4.34)
Interpersonal	9.61(4.69)	9.71(4.58)	9.44(4.28)
Moral	10.03(4.48)	9.82(4.37)	10.63(4.85)
Ultimate meaning	9.84(4.85)	9.88(4.78)	9.84(5.07)
Doubt	9.18(4.56)	9.45(4.10)	8.86(5.11)
Using psychotropic medication	105 (43%)	46(69%)	58(82%)
Other psychotherapy	71(29%)	33 (49%)	37(52%)
Number sessions completed-mean (SD)	4.64 (3.33)	4.78(3.34)	4.52(3.33)

master’s degrees in Divinity and Psychology, affiliated with the Evangelical Lutheran Church of America, and served as an Army National Guard Family Life chaplain. If no chaplain was able to cover a scheduled group due to illness, family emergency, or deployment, the first author (a psychologist with specialized experience in spiritually integrated care) would act as a substitute group leader. All chaplains were trained in, and administered, both treatment conditions. Chaplains were trained in facilitation of the BSS intervention using a standardized, eight-hour curriculum combining reading, review of videos of intervention techniques, and live instruction with supervised role-plays of each session. Chaplains were trained in facilitation of PCGT in a similar eight-hour curriculum combining reading on PTSD, group therapy techniques, rationale and manualized techniques for PCGT, lecture, and live instruction with supervised role-plays of each type of session (i.e., education sessions, support group sessions, termination session). Doctoral-level psychologists led the training for both conditions.

In order to capitalize on the use of chaplains to reduce the stigma associated with mental health services, both BSS and PCGT were administered in religious communities rather than in conventional mental health treatment settings. Communities that volunteered space for these groups included a large metropolitan interfaith center, a large Roman Catholic church, several independent, nondenominational churches, and several mainline Protestant churches.

2.2.1. Description of Building Spiritual Strength

BSS is an eight-week, manualized, group therapy intervention

designed to very specifically address trauma-induced spiritual distress, and was initially developed for survivors of combat trauma (Harris et al., 2011). Sessions are two hours long and scheduled weekly. Content was developed based on previous studies of spirituality and resilience in veteran and civilian trauma survivors (Harris et al., 2008; Ogden et al., 2011) and previous studies of spiritually integrated interventions for sexual trauma survivors (Murray-Swank and Pargament, 2005, 2008). The intervention reduces the stigma associated with conventional PTSD treatment by making services available by non-traditional providers (i.e., chaplains) in community, rather than health care settings (for example, churches, inter-faith centers, libraries, etc.).

Informed consent sessions included providing education about BSS, noting that it is designed for participants from any faith or non-faith group, and cautioning those who practice evangelism that it would be important to pursue this part of their practice outside of group. Rules about respecting others’ faiths are made explicit. Participants are also informed about the spiritual content of the group, alternative services available, expectations of work outside of group sessions, and both limits and expectations for confidentiality.

The initial group session involves establishing group norms, establishing rapport by involving veterans in “storytelling” about family, career, and spiritual changes before and after trauma exposure, and distributing a participant workbook that would be used throughout the eight-week intervention. Sessions 2 and 3 focus on communication and relationship concerns with any Higher Power or Ultimate Value, and assist participants in creating a prayer/meditation log that they will use for the remainder of the sessions. Session 4 addresses “theodicy,” the process of reconciling any beliefs about a benevolent, omnipotent Higher Power with the experience of trauma. Session 5 explores active vs. passive spiritual coping practices, supporting increased use of active coping. Sessions 6 and 7 provide opportunities to consider forgiveness for self, others, and one’s Higher Power. The final session (Session 8) explores ways to maintain spiritual support resources after the conclusion of BSS.

Typical session formats include initial time devoted to processing individual content of prayer/meditation logs, allowing veterans to use feedback from group members and leaders when they are having difficulty resolving distress in relationship with a Higher Power or Ultimate Value. During this time, group leaders assess psychospiritual developmental factors, and facilitate increased developmental complexity in considering sources of spiritual distress. For example, when a Vietnam veteran expresses spiritual concerns about actions taken in combat, leaders may ask if it is fair to judge the actions of an 18-year-old based on the spiritual resources and beliefs this individual has at age 70. A similar developmentally-based intervention is for the leader to clarify the ‘multiple moral contexts’ (Harris et al., 2015) found in combat, noting that no solution would be classified as “right” or “wrong” in all relevant contexts, encouraging veterans to consider their actions on a continuum, rather than in categories.

After the initial review of prayer/meditation log material, leaders review education/discussion materials in the workbook for each session as outlined above. The sequence of materials is also designed to gradually increase cognitive complexity in considering spiritual concerns.

2.2.2. Description of Present Centered Group Therapy

PCGT is a group therapy model that provides support and addresses the participants’ current problems, which are conceptualized as being related to PTSD, but does not directly focus on the person’s trauma-related memories or facilitate resolution of participants’ spiritual distress (i.e., it does not invite an intense focus on one’s relationship with a Higher Power, theodicy, forgiveness, etc.). Early sessions focus on education about PTSD, while later sessions focus on using group process to facilitate problem resolution (Wattenberg et al., 2006). Previous studies demonstrate that PCGT is efficacious in reducing the symptoms of PTSD (Schnur et al., 2003).

The PCGT condition consisted of eight weekly two-hour group

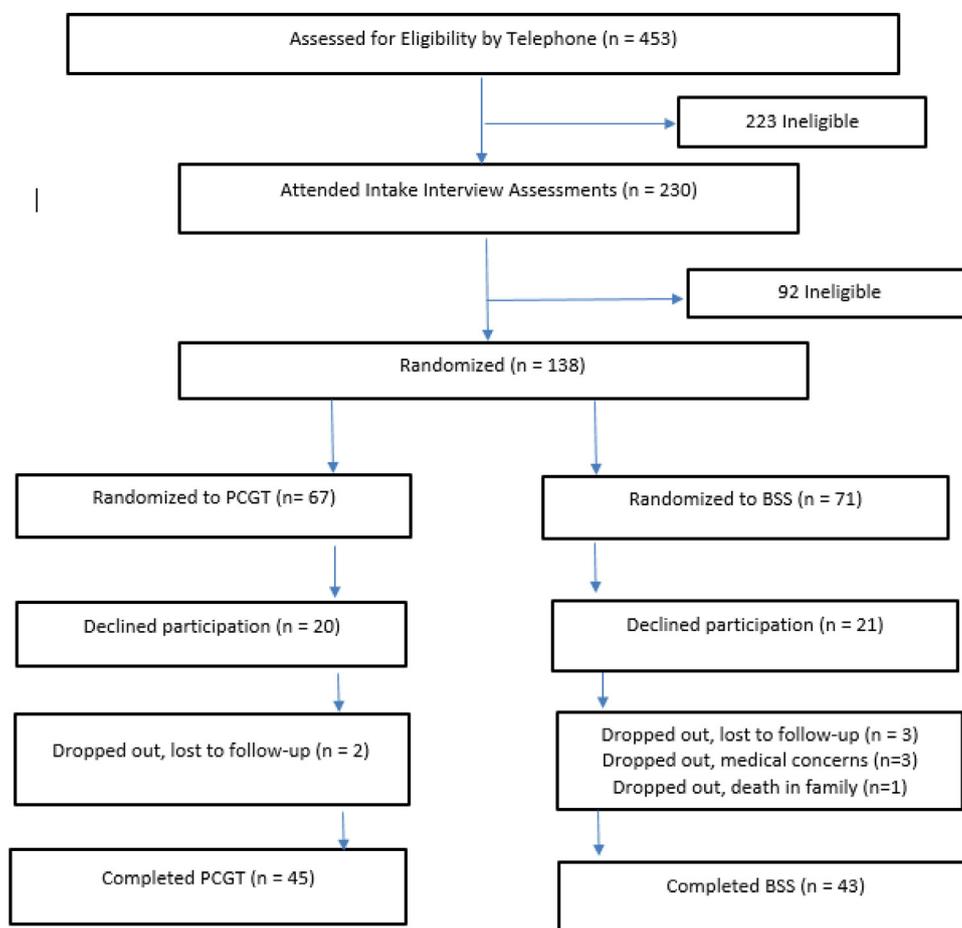


Fig. 1. Participant flow diagram.

sessions administered following an adaptation of the protocol used in VA Cooperative Study 420 (Schnurr et al., 2003). PCGT provides a credible, relevant comparison intervention that controls for nonspecific therapeutic factors (Foy et al., 2011), and is frequently used as a control condition in studies of other group interventions for PTSD (such as emotional support, reduction of social isolation, listening, reflection, etc.) common to all psychotherapies (Wattenberg et al., 2006). PCGT is similar to BSS in that it seeks to support current coping efforts, rather than asking members of the group to describe and reorganize their perceptions of the trauma (Wattenberg et al., 2006).

A typical PCGT session starts with a “check-in” from each participant, soliciting reactions to the previous group session. After check-in, early sessions include substantial educational material about PTSD, as well as opportunities for participants to establish personal goals for their work in the group (Schnurr et al., 2003). Later sessions will instead ask group members to set an agenda regarding concerns they would like to discuss, and allow group members to support each other in finding solutions to problems related to PTSD symptoms (Schnurr et al., 2003; Wattenberg et al., 2006). Session specifics are as follows: Sessions 1 and 2 focus on psychoeducation about PTSD, provide a treatment rationale, focus on building group cohesion and support, and goal setting. Sessions 3 through 7 focus on the discussion of daily difficulties, with the final session focusing on consolidating gains and making plans for the future (Wattenberg et al., 2006). For purposes of this research, PCGT participants were instructed not to discuss spiritual issues in their PCGT groups to provide for accurate control for assessment of the role of spirituality in care.

2.3. Assessments

2.3.1. The Clinician Administered PTSD Scale IV(CAPS-IV)

The CAPS (Blake et al., 1995) was administered at baseline to verify diagnosis for study eligibility and at the end of treatment (week 8) to provide a clinician rated measure of PTSD symptoms. The CAPS is a semi-structured clinician administered interview scale for the diagnosis of PTSD (Blake et al., 1995). The CAPS includes an evaluation of the potential Criterion A stressor (traumatic event) as well as ratings of each of the 17 symptoms of PTSD as described in the DSM-IV. Each symptom is rated in terms of frequency (0–4) and intensity (also 0–4). Total severity scores consist of summing each frequency and intensity rating, for a score ranging from 0 to 136. Diagnoses were established using the minimum of one (frequency) and two(severity) scoring rule for each symptom (Blake et al., 1995). Considered the “gold standard” diagnostic interview for PTSD, (Weathers et al., 2001) the CAPS has excellent reliability, yielding high internal consistency, inter-rater reliability and consistency across testing occasions. The CAPS has demonstrated excellent convergent and discriminant validity, diagnostic utility, and sensitivity to clinical change; a 10-point difference in scores is considered clinically significant (Weathers et al., 2001). In addition to assessing a diagnosis of PTSD, the CAPS was used to assess for sub-threshold PTSD (PTSD symptoms that do not meet full criteria for the disorder but that have been associated with clinically significant impairment). Subthreshold PTSD was determined based on the Blanchard et al. (1996b) criteria; meeting Criterion A, Criterion B and either Criterion D or C. The CAPS assessments were administered by research assistants who were a) graduate students in psychology and b) blind to experimental condition. The CAPS assessments were supervised by a licensed psychologist who was also blind to experimental

condition. The research assistants were trained using National Center for PTSD video training resources and completed a competency test scored by a licensed psychologist with expertise in PTSD assessment. All CAPS interviews were recorded; the first five CAPS interviews were reviewed in their entirety by the psychologist supervising the graduate students. Subsequent recordings were used by both the graduate students and the supervisor to resolve any questions about scoring.

2.3.2. *The PTSD Checklist-Civilian Version (PCL-C)*

The PCL-C (Weathers et al., 1993) was used to assess self-reports of PTSD symptoms at baseline, end of treatment, and follow-up. The Civilian Version was chosen to accurately measure symptoms for veterans who survived non-combat index traumas. The PCL includes 17 items that assess each PTSD symptom. Response options are on a scale of 1–5, with higher scores indicating more severe symptoms. It has been shown to have good internal consistency reliability (Cronbach's Alpha from 0.89 to 0.97). Cronbach's alpha in this sample was 0.91. Validity is supported by significant positive correlations with other validated PTSD measures, and structured interviews for PTSD; persons with scores of 50 or greater are generally considered at risk for PTSD (Blanchard et al., 1996b; Bliese et al., 2008; Weathers et al., 1993). The margin for clinically significant change in PCL scores is 10 points (Ruggiero et al., 2003).

2.3.3. *The Religious and Spiritual Struggles Scale (RSSS)*

The RSSS (Exline et al., 2014) was used to measure spiritual distress. This is a 26-item measure utilizing a five-point response scale. This instrument is used to assess supernatural, intrapersonal, and interpersonal forms of religious and spiritual struggles. Subscales include Divine (distress in relationship with the Sacred), Demonic (distress related to evil spiritual forces), Interpersonal (spiritual conflicts with others), Moral (distress related to moral decisions), Ultimate Meaning (distress related to life purpose or lack thereof), and Doubt (distress related to questioning faith). Response options range from 1 to 5, with higher values indicating higher levels of distress. Cronbach's alpha values range from 0.85 to 0.93, and the subscales have been validated in comparison to other instruments measuring many aspects of spiritual, psychological, and social functioning (Exline et al., 2014). In this sample, Cronbach's alpha values ranged from 0.85 to 0.92. Note that the RSSS is a relatively new measure that was not available at the start of the study. As a result, it was administered to only 104 participants (53 in the BSS group, 51 in PCGT group).

Baseline (Time 1) assessments included the CAPS, PCL-C, and RSSS. Time 2 assessments were collected at eight weeks, coinciding with the end of active treatment, and included the CAPS, PCL-C, and RSSS. The Time 3 assessments were collected by mail at 16 weeks (two months) after the conclusion of active treatment; these assessments included only the CAPS and PCL.

2.4. *Treatment fidelity*

All BSS and PCGT sessions were audiotaped; the first author listened to 75% of the sessions and provided study therapists feedback on fidelity during weekly supervision. To verify the effectiveness of therapist training, the first author rated all sessions in the first half of the study; subsequent recordings were rated on a randomized schedule. A total of 68% of all sessions were rated for fidelity to the treatment manual by both the first author and a research assistant who was a graduate student in social work. The graduate student rated only sessions that had been rated by the first author, but was blind to the first author's ratings. The goal was to have all sessions rated by the first author subsequently rated by the graduate student, but the graduate student obtained other employment and left the project before completing all ratings. The fidelity rating instrument for BSS was taken from the Harris et al. (2011) pilot study, and the fidelity rating instrument used for PCGT was adapted from the one used by Polusny et al. (2015).

Average fidelity to the BSS model was 0.99 across cohorts, with interrater reliability of 0.87. Average fidelity to PCGT was also 0.99 across cohorts, with interrater reliability of 0.95.

2.5. *Statistical analysis*

Baseline differences between groups were evaluated using *t*-tests for continuous measures and chi-squared tests for categorical measures. Mixed effect regression analyses (multilevel modeling) were used to compare change in the two groups over all three time-points for PCL-C scores, including time as a within-subject (Level 1) effect and group and the group by time interaction as between subject (Level 2) effects. In the case of a significant difference between the groups on change-over-time, the group-by-time interaction term would be significant. Multilevel modeling is robust to missing data points such that all available data was used in the analyses (i.e., a participant with data on any single assessment point for a measure is included in the analysis), enhancing power and reducing bias due to missing data. Repeated measures ANOVA was also used to look at group differences pre-post. Chi-square tests were used to look at group differences in treatment response (reduction of 10 or more points). PTSD symptoms as measured by the CAPS symptom severity scale was the primary outcome with PCL-C and RSSS subscales as secondary outcomes. All analyses were completed using SPSS v.22 with all tests two-tailed. Tests for Hypothesis 1 used an alpha of 0.05. Because Hypothesis 2 involved six different tests, we used Bonferroni correction, placing alpha at 0.008.

3. **Results**

3.1. *Preliminary analyses and participant flow*

See Tables 1 and 2 for sample demographics, means, and standard deviations. At baseline, chi-square and independent samples *t*-tests indicated no statistically significant differences between those assigned to BSS and PCGT groups based on age, gender, education, income, or proportion of ethnic minority participants. There were no statistically significant differences between groups at baseline on scores on symptom or spiritual distress variables.

Participant flow is summarized in Fig. 1. Of the 138 participants

Table 2
Means and standard deviations of study outcomes.

Outcome	Time	PCGT			BSS		
		Mean	n	SD	Mean	n	SD
1. PCL	1	55.12	66	10.83	58.51	69	11.24
	2	52.86	42	13.47	53.24	41	13.90
	3	57.03	29	11.45	58.71	33	12.72
2. CAPS	1	61.12	67	17.44	61.31	71	21.02
	2	43.37	41	22.87	37.70	40	22.04
3. Doubt	1	9.45	44	4.10	8.86	43	5.11
	2	7.95	37	3.85	8.82	39	4.59
	3	7.88	24	3.60	8.62	26	4.79
Ultimate meaning	1	9.88	43	4.78	9.84	43	5.07
	2	10.17	30	4.36	9.31	29	5.02
	3	9.42	24	4.14	9.78	27	5.72
Moral	1	9.82	44	4.37	10.63	43	4.85
	2	8.73	37	3.95	9.62	39	4.74
	3	9.75	24	4.79	9.41	27	5.06
Interpersonal	1	9.71	45	4.58	9.44	43	4.28
	2	8.54	37	3.92	8.90	40	3.99
	3	9.21	24	3.78	9.44	27	4.48
Demonic	1	6.78	45	4.16	7.67	43	4.34
	2	5.97	36	3.60	7.75	40	4.85
	3	7.08	24	4.24	7.15	26	4.54
Divine	1	8.51	45	4.00	10.02	43	5.69
	2	8.47	36	4.53	8.30	40	4.88
	3	8.96	24	3.90	7.85	27	4.22

enrolled, all (100%) completed baseline assessments, 79 (57.2%) completed the post-treatment evaluation (Time 2), and 62 (44.9%) completed the follow-up evaluation (Time 3). Treatment completion was defined as attendance of at least 5 sessions for either treatment. Of the 138 participants who were randomly assigned to the BSS group ($n = 71$) or the PCGT group ($n = 67$), 43 (60.6%) completed the BSS treatment while 45 (67.2%) completed PCGT. This difference was not statistically significant between treatment conditions ($\chi^2 = 0.49$, $p = 0.484$). Treatment completers did not differ from non-completers on Time 1 PTSD symptoms (PCL-C, CAPS). They also did not differ on their RSSS scores for Divine, Demonic, Interpersonal, Moral, or Ultimate Meaning. Those who did drop out were significantly younger than those who did not (50.86, $SD = 15.99$ for dropouts, 59.81, $SD = 11.64$ for non; $F[1,90] = 9.11$, $p = 0.003$). Completers did not differ from non-completers in terms of minority racial status, gender, children living at home, marital status, or belief in G-d or a Higher Power. Time 2 completers were older (Mean = 60.67, $SD = 15.27$) than non-completers (Mean = 50.97, $SD = 15.27$, $t = 3.48$, $p = 0.001$). Time 3 completers were also older (Mean = 60.66, $SD = 11.43$) than non-completers (Mean = 53.36, $SD = 14.90$; $t = 2.65$, $p = 0.01$). Of those who completed the study, 16% had subthreshold PTSD and the remainder (84%) met full criteria for PTSD. Means and standard deviations for all outcome variables are presented in Table 2.

3.2. Primary analyses

3.2.1. Primary hypotheses

Analyses found that there were no significant effects for time ($F[1, 174.16] = 0.56$, $p = 0.813$), group ($F[1, 155.10] = 2.624$, $p = 0.107$) or the group-by-time interaction ($F[1, 174.31] = 0.76$, $p = 0.384$) on the PCL-C. Overall these results suggest that the participants were not reporting different levels of PTSD symptomatology over time, and that the two groups did not differ in the mean level of PTSD symptoms reported or in terms of the change in PCL-C scores over time. The model was restricted to pre- and post-treatment time points only, the effect was significant for time ($F[1,103.51] = 9.42$, $p = 0.003$) but not group ($F[1,139.74] = 0.98$, $p = 0.325$) or the time by group interaction ($F[1,103.51] = 1.38$, $p = 0.244$) on the PCL-C. The effect size for time across groups was $d = 0.24$, and the effect size for group was $d = 0.15$. Change in clinician-rated PTSD symptom severity (CAPS scores) was analyzed with a two-group repeated measure ANOVA. Main effects were present for time ($F[1, 79] = 100.00$, $p < 0.001$, $d = 2.57$) but not for group ($F[1, 79] = 0.69$, $p = 0.409$) or the group-by-time interaction ($F[1, 79] = 1.14$, $p = 0.289$). The pre- to post-treatment effect size for completers on the CAPS was $d = 1.06$ for the BSS group and $d = 0.92$ for the PCGT group. For clinician assessed PTSD symptoms, there were significant decreases over time from before- to after- treatment, but these decreases did not differ between groups.

An analysis of treatment responders (using a decrease of 10 or more points as an index of clinically significant improvement for the CAPS and the PCL) mirrored these findings. When focusing on the PCL scores from post-treatment, 12 (29.3%) of the BSS participants and 11 (26.2%) of the PCGT participants had clinically significant decreases ($\chi^2 = 0.10$, $p = 0.754$) from baseline. At the two-month follow-up, 7 BSS participants (21.2%) and 4 PCGT participants (13.8%) had significant reductions from baseline ($\chi^2 = 0.58$, $p = 0.445$). When focusing on the CAPS, 28 (68.3%) of treatment completers in BSS, and 28 (70%) of completers in PCGT achieved clinically significant reduction in PTSD symptomatology ($\chi^2 = 0.028$, $p = 0.868$) from baseline to post-treatment. CAPS data were not collected at two-month follow-up.

3.2.2. Secondary hypotheses

Mixed effects regression modeling was also used to evaluate change in the six RSSS subscales. The six multilevel modeling analyses are summarized in Table 3 and Fig. 2; to control for Type I error we applied

a Bonferroni correction such that effects were only considered significant at $p < 0.008$. The only statistically significant finding emerged for the Divine subscale. For that scale, there were statistically significant effects for the group-by-time interaction ($F[1, 145.27] = 10.48$, $p = 0.001$) but not for group ($F[1, 121.12] = 7.05$, $p = 0.009$) or time ($F[1, 142.63] = 1.70$, $p = 0.195$). When the model was restricted to two time-points, assessing change only from pre-treatment to post-treatment, there were no significant effects for time, group, or the group by time interaction for Demonic, Ultimate Meaning, Doubt, or Interpersonal Scales. Overall, this indicates that the two groups showed differential change over time on the Divine subscale.

4. Discussion

The purpose of this clinical trial was to compare the efficacy of BSS, a spiritually integrated, group-based intervention for addressing trauma-related concerns, to PCGT in a sample of veterans with PTSD or subthreshold PTSD. Hypothesis One was not supported. Participants in both PCGT and BSS conditions had similar levels of reduction in PTSD symptoms on both the PCL and the CAPS; BSS did not provide for greater reduction in PTSD symptoms. Hypothesis Two was not conclusively supported; while most subscales of the RSSS did not evidence significant differences, there was a significant group-by-time difference in distress in relationship with a Higher Power, and the effect size for this subscale was large.

When considering symptoms of PTSD, findings were split between self-report of PTSD (the PCL-C) and the clinician-rated measure (the CAPS). Specifically, neither group showed significant changes across time points in self-reported PTSD (i.e., PCL scores) suggesting that PTSD symptoms were not aided by either treatment condition. In contrast, results from the CAPS suggested substantial symptoms declines in veterans in both treatment conditions, with 68–70% of participants demonstrating clinically significant decreases in PTSD symptoms. It is not at all unusual to derive findings of greater change using the CAPS than the PCL-C; a recent meta-analysis found this difference across a large number of studies (Campbell et al., 2016). Other reviews have found that measurement using the PCL-C typically yields indications of greater symptom severity than the CAPS (Bergman et al., 2017). While this finding does not support the superiority of BSS to PCGT, it does demonstrate a potentially powerful effect from pre- to post-treatment on clinician rated symptoms.

These results vary from previous findings with the PCL and the BSS intervention (Harris et al., 2011). In this previous trial, participants reported statistically and clinically significant reduction in symptoms as measured by the PTSD Checklist, and the dropout rate was much smaller. A number of methodological differences between the two studies may account for these differences. In the first study, psychologists, rather than chaplains, implemented the intervention, and this may have affected client expectations for changes, or actual changes, in PTSD symptoms as opposed to spiritual distress. In the first study, clinician referrals and a recruiting booth at events for veterans returning from combat were primary recruiting strategies. As a result, most of the participants in that study were individuals who expressed a great deal of motivation to find help with PTSD and spiritual distress, and a significant proportion had not yet experienced any treatment for PTSD. For the current study, our primary recruitment strategy involved letters to veterans who had previously received treatment for PTSD. While current PTSD symptoms were confirmed prior to study enrollment, it is possible that this different recruitment strategy may have resulted in a sample that was either more experienced with PTSD services or one that had different levels of motivation for engaging in treatment; this may have accounted for the differing dropout rate across studies as well. The current sample was 65% Vietnam-cohort veterans, a group identified in previous literature as treatment refractory (Ruzek et al., 2001), which may also have impacted engagement and results. Baseline symptom severity also differed between the two

Table 3
Summary of multilevel modeling results for PTSD and spiritual distress variables.

	Time		Group		Group* Time	
	Statistic	p	Statistic	p	Statistic	p
1. PCL	$F[1, 174.16] = 0.06$	0.813	$F[1, 155.10] = 2.62$	0.107	$F[1, 174.31] = 0.76$	0.384
Divine	$F[1, 142.63] = 1.70$	0.195	$F[1, 121.16] = 7.05$	0.009	$F[1, 145.27] = 10.48$	0.001
Demonic	$F[1, 121.43] = 0.70$	0.403	$F[1, 108.50] = 2.35$	0.129	$F[1, 124.05] = 0.90$	0.346
Interpersonal	$F[1, 127.03] = 0.14$	0.711	$F[1, 114.52] = 0.01$	0.914	$F[1, 130.30] = 0.05$	0.830
Moral	$F[1, 57.63] = 0.13$	0.717	$F[1, 83.24] = 2.19$	0.143	$F[1, 58.49] = 1.21$	0.276
Ultimate meaning	$F[1, 80.74] = 0.29$	0.593	$F[1, 85.53] = 0.05$	0.821	$F[1, 81.05] = 0.14$	0.707
2. Doubt	$F[1, 122.76] = 2.47$	0.118	$F[1, 116.75] = 0.09$	0.764	$F[1, 124.92] = 0.70$	0.406

studies. In the first study, the average baseline PCL-C score for the whole sample was 45.54, while in this study, the average baseline PCL-C score was 55.81. It is possible that BSS is more effective for individuals experiencing less severe PTSD. It is also likely that individuals who participated in the first study may have had higher levels of spiritual commitment or identification; it is possible that BSS may be a more effective approach for those who put a higher value on their spirituality. Both of these possibilities should be considered in future research, as this study was not powered to obtain answers to these questions.

In contrast to the self-report findings on PTSD, BSS alleviated tension in veterans' relationships with G-d or a perceived Higher Power. Furthermore, improvements in this area were sustained even after the intervention had ended (See Fig. 2). Items on the Divine subscale include statements such as "Felt angry at G-d," "Felt as though G-d had abandoned me," and "Questioned G-d's love for me." This subscale of the RSSS has specifically been related to increased suicide risk (Raines et al., 2017). This subscale also has many of the highest RSSS subscale correlations with mental health outcomes, including depression ($r = 0.42, p < 0.01$), anxiety ($r = 0.40, p < 0.01$), anger ($r = 0.34, p < 0.01$), loneliness ($r = 0.35, p < 0.01$), presence of meaning in life ($r = -0.22, p < 0.01$), and life satisfaction ($r = -0.21, p < 0.01$) (Exline et al., 2014). This list includes many elements of Jinkerson's (2016) primary and secondary syndromal features of moral injury, which suggests that this subscale may become useful in future study of moral injury and its treatment. The RSSS is a comparatively new instrument, and further research is recommended to learn about the profile of subscale scores that may best inform research in PTSD, spiritual distress, and moral injury.

Results support further investigation of the utility of BSS, both as a tool for engaging those who will not access conventional mental health services, and as a tool for addressing trauma induced spiritual distress. Given the steadily increasing numbers of studies linking spiritual distress with suicidal ideation, suicide attempts, and poor mental health outcomes (Bryan et al., 2014, 2015; Harris et al., 2014; Kopacz, 2014; Kopacz et al., 2015; Kopacz et al., 2016a, 2016b; Maguen et al., 2011; Raines et al., 2017), further research on the role for BSS in suicide prevention is indicated. These results are also further support for the potential for effectively involving appropriately trained chaplains/clergy in institutional and community resources for responding to PTSD. It would also be useful to determine the extent to which chaplains who do not have specialized mental health training, or other paraprofessional providers such as life coaches or medics, could provide the intervention with adequate safety, fidelity to the model, and similar levels of effectiveness, and to examine the comparative cost-effectiveness of training paraprofessionals vs. currently-licensed mental health care providers in this type of intervention. These initial results also support continued exploration of the relationships between spiritual distress and PTSD. A steadily growing body of literature suggests that spiritual distress is not only related to PTSD symptom severity (Harris et al., 2008; Ogden et al., 2011), but that spiritual distress can also play a longitudinal role in maintaining PTSD symptoms (Currier et al., 2015; Harris et al., 2012). Promising results on the RSSS Divine subscale point to this instrument as a viable resource for future research in this field.

4.1. Limitations and future directions

There are several limitations to this study. After attrition, sample

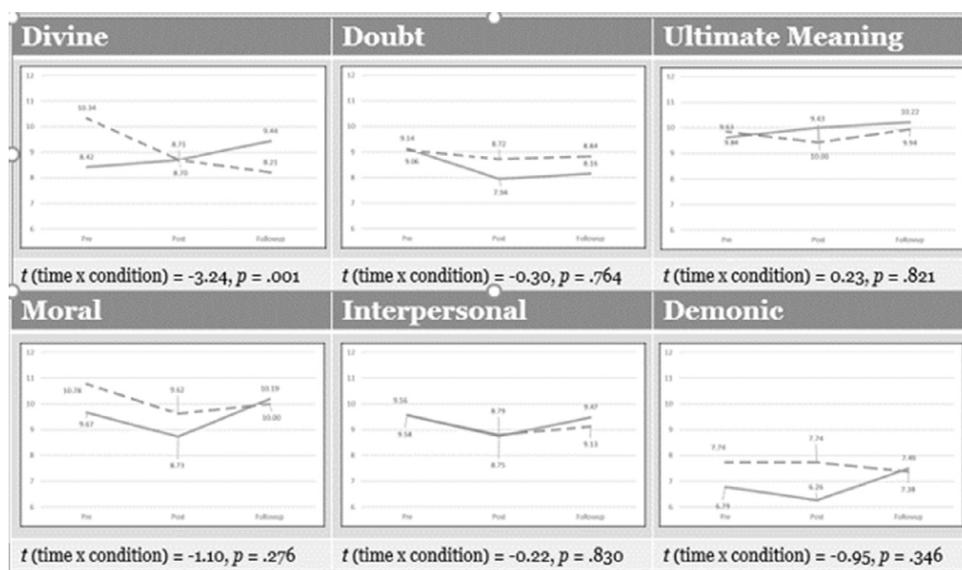


Fig. 2. Multilevel analyses of Religious and Spiritual Struggles Scale subscales. Dotted line = BSS group, Solid line = PCGT group.

size was moderate, with limited gender, ethnic, and religious diversity, impacting generalizability. Because the sample was drawn from a veteran population, it is not clear that results would generalize to non-veteran samples. There are important differences in outcomes based on clinical interview vs. self-report measures of PTSD symptoms, suggesting the need for further replication of findings in different settings. The current study included individuals with subthreshold PTSD, so further study with samples that exclusively meet full criteria for PTSD are indicated. Use of chaplains who have mental health training as interventionists may limit the generalizability of findings to use by other types of providers; further studies would be necessary to determine if direct care chaplains can implement BSS effectively.

Because this study was initiated before *DSM-5* was released, instruments measuring PTSD symptoms were based on *DSM-IV* criteria. Generalization of these findings to *DSM-5* criteria would require further research. Because the *DSM-5* includes more criteria relevant to spiritual distress, such as inappropriate self-blame and guilt, it is likely that spiritually integrated approaches may have some level of effectiveness in addressing these symptoms that would not be captured by instruments assessing the older *DSM-IV* criteria.

Because spiritual distress is a comparatively new construct of interest in the PTSD literature, it is unclear if the instrument used to measure this construct is ideal. Statistically significant change in spiritual distress was limited to the Divine subscale of the RSSS. Previous studies of spiritual distress in veterans have identified distress in relationship with a Higher Power as an important predictor of depressive and PTSD symptoms (Harris et al., 2014). While it is not completely clear that this subscale measures a construct equivalent or relevant to moral injury, available evidence about this type of spiritual distress clearly links it to important mental health outcomes, including PTSD and suicide (Harris et al., 2014; Kopacz et al., 2016a; Maguen et al., 2011; Raines et al., 2017). Additional research on relationships between RSSS subscales and trauma is a promising area for future exploration. Furthermore, research on the effects of conventional PTSD treatments, such as Prolonged Exposure and Cognitive Processing Therapy, on RSSS subscales would be helpful in determining if BSS actually adds a new dimension to potential PTSD treatment options.

Conclusions from this study should also recognize that the same therapists provided both types of therapy, which controlled for therapist effects across conditions. Although fidelity to the BSS model was within acceptable limits for both PCGT and BSS, the strategies used in this protocol potentially threatened internal validity insofar as the therapists were not equally rigorous or effective in delivering both conditions. In addition (given the spiritually-integrated nature of BSS), therapists identified themselves as chaplains only in the BSS condition. As such, we cannot fully disentangle whether effects of BSS were driven by client expectations for receiving care from chaplains or content and procedures of the intervention itself. Studies of BSS have included therapists who were psychologists with specialized training in spiritual counseling (Harris et al., 2011) and chaplains with specialized mental health training (this study), but further research is needed to determine if the intervention can be administered effectively by direct care chaplains or community clergy.

In summary, while there are significant limitations in the existing research on BSS, there is sufficient promising data on the effects of BSS on PTSD symptoms and spiritual distress, as well as reasonable evidence for the safety of the intervention, to support continued investigation of its potential utility in VA and other settings, as well as further research to determine a) its potential application to suicide prevention, b) its potential for use among direct care, rather than specialized chaplains, and c) its mechanisms of action. Related areas for further study may also include assessing PTSD patients' spiritual needs, and the role these needs may play in matching the patient to appropriate spiritually-sensitive care, as well as exploring the role of patients' spiritual strengths and resources in mediating the effects of BSS. Furthermore, in this study, we assessed the impact of the intervention

on spiritual distress, but did not assess any changes in spiritual support, such as positive religious coping. This should be investigated in further studies.

Disclosures

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